Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1.(currently amended): A chemical sensor package comprising:

a. A substrate having a front surface and a back surface facing generally away from one another which surfaces extend generally in a common plane and which is comprised of a first non-conductive layer and a second non-conductive layer, the first layer being on the side of the substrate closer to the front surface of the substrate and being comprised of a polymer film,

b. an [a] electrically conductive trace extending in the plane of the substrate over an area in between the first and second substrate layers and having a front side facing toward the front surface of the substrate, the trace having a three-dimensional conductive circuit feature formed integrally therewith and projecting at least partly through the second non-conductive layer and outwardly of the back surface of the substrate for providing a readily connectable and disconnectable pressure interconnection to another element at said one side of said substrate,

c. a sensing electrode overlying the trace at an [a] area of trace between the first and second substrate layers and having a front side facing toward the front surface of the substrate and a back side facing toward the back surface of the substrate, the electrode being in electrical contact with the trace and

d. a well extending into the substrate from the front surface to the front side of the electrode and being exposed to the front side of the electrode.

2. (previously presented) A chemical sensor package comprising:

a. an electrically conductive copper foil having an upper face and an opposed lower face,

b. a sensing electrode overlying the foil and having a lower side facing toward the upper face of the foil and in electrical communication with the foil and an opposed upper side facing away from the foil,

c. a non-conductive overlay overlying and secured to the upper face of the foil and the upper side of the electrode and having an upper surface remote from the foil and electrode and

d. a well extending into the non-conductive overlay from the upper surface thereof to the upper side of the electrode and being exposed to the upper side of the electrode.

Claim 3 (currently amended): A method as in claim 2 and wherein the electrode is comprised of a metal, metal chloride, and/or metal oxide selected from silver, gold, palladium, nickel, platinum, iridium, and their chlorides and oxides.

Claim 4 (previously presented): A chemical sensor package as in claim 2 which further comprises a non-conductive underlayer underlying the lower face of the foil and having a lower surface remote from the foil and an opening therethrough at a location adjacent the lower face of the foil, whereby to provide access to the lower

face of the foil at said location to permit readily connectable and disconnectable pressure electrical interconnection with another element at the lower surface of the substrate.

Claim 5 (previously presented): A chemical sensor for sensing a target chemical which comprises a sensor package as in claim 2 having sensing means in the well of the sensor package capable of electrochemically sensing a target chemical at the well.

Claim 6 (previously presented): A chemical sensor package comprising:

a. electrically conductive foil having an upper face and an opposed lower face,
b. a sensing electrode overlying the foil and having a lower side facing toward the upper face of the foil and in electrical communication with the foil and an opposed upper side facing away from the foil,
c. a non-conductive overlay overlying and secured to the upper face of the foil and the upper side of the electrode and having an upper surface remote from the foil and electrode,
d. a well extending an into the non-conductive overlay from the upper surface thereof to the upper side of the electrode and being exposed to the upper side of the electrode and
e. a three-dimensional conductive circuit feature formed integrally with the foil that projects below the lower face thereof for providing a readily connectable and disconnectable pressure interconnection to another element below the lower face of the foil.

Claim 7 (previously presented): A chemical sensor package as in claim 6 and wherein the foil is comprised of copper.

Claim 8 (currently amended): A chemical sensor package as in claim 6 and wherein the foil is comprised of copper and the electrode is comprised of a metal, metal chloride, and/or metal oxide selected from silver, gold, palladium, nickel, platinum, iridium, and their chlorides and oxides.

Claim 9 (previously presented): A chemical sensor package as in claim 6 and wherein the overlay comprises a polymer film.

Claim 10 (previously presented): A chemical sensor package as in claim 9 and wherein the polymer film comprises polyimide film.

Claim 11: (previously presented) A generally planar chemical sensor package comprising:

a. an electrically conductive foil having an upper face and an opposed lower face,
b. a sensing electrode overlying the foil and having a lower side facing toward the upper face of the foil and in electrical communication with the foil and an opposed upper side facing away from the foil,
c. a non-conductive overlay overlying and secured to the upper face of the foil and the upper side of the electrode and having an upper surface remote from the foil and electrode,
d. a well extending into the non-conductive overlay from the upper surface thereof to the upper side of the electrode and being exposed to the upper side of the electrode,
e. a non-conductive substrate underlying and secured to the lower face of the foil and having a lower surface remote from the foil and
f. a three-dimensional conductive circuit feature formed integrally with the foil that projects below the lower face thereof, through the non-conductive substrate and outwardly below the lower surface of the substrate for

a readily connectable and disconnectable pressure interconnection to another element at the lower surface of the substrate.

Claim 12 (currently amended): A chemical sensor package as in claim 11 and wherein the foil is comprised of copper and the electrode is comprised of a metal, metal chloride, and/or metal oxide selected from silver, gold, palladium, nickel, platinum, iridium, and their chlorides and oxides.

Claim 13 (previously presented): A chemical sensor package as in claim 11 and wherein the overlay comprises a polymer film.

Claim 14 (previously presented): A chemical sensor package as in claim 13 and wherein the polymer film is a polyimide film.

Claim 15. (previously presented): A chemical sensor for sensing a target chemical which comprises a sensor package as in claim 6 having sensing means in the well of the sensor package capable of electrochemically sensing a target chemical at the well.

Claim 16. (currently amended): A chemical sensor as in claim 15 and wherein the electrode is comprised of a metal, metal chloride, and/or metal oxide selected from silver, gold, palladium, nickel, platinum, iridium, and their chlorides and oxides.

Claim 17 (previously presented): A chemical sensor as in claim 15 and wherein the foil comprises copper.

Claim 18 (previously presented): A chemical sensor as in claim 15 and wherein the sensing means comprises an electrolytic medium.

Claim 19 (previously presented): A chemical sensor as in claim 15 and wherein the electrode comprises silver and the sensing means in the well comprises a layer of silver chloride at the upper surface of the electrode.

Claim 20 (previously presented): A chemical sensor as in claim 15 and wherein the electrode comprises silver and the sensing means in the well comprises a layer of silver chloride at the upper surface of the electrode and an electrolytic medium comprising chloride ions.

Claim 21 (previously presented): A chemical sensor as in claim 15 and including a membrane at the upper surface of the overlay covering the well.

Claim 22 (previously presented): A chemical sensor as in claim 21 and wherein the membrane is ion selective to thereby allow potentiometric measurement of voltage between the foil and an analyte external to the well that contains a selected ion.

Claim 23 (previously presented): A sensor as in claim 21 and wherein the electrode comprises silver and the sensing means in the well comprises a layer of silver chloride at the upper surface the electrode and an electrolytic medium comprising chloride ions.

Claim 24 (previously presented): A chemical sensor as in claim 21 and wherein the electrode is capable of sensing a selected gas and the membrane is permeable to the selected gas to thereby allow potentiometric measurement of voltage between the foil and an analyte external to the well that contains the selected gas.

Claim 25 (previously presented): A sensor as in claim 24 and wherein the electrode comprises silver and the sensing means in the well comprises a layer of silver

chloride at the upper surface the electrode and an electrolytic medium comprising chloride ions.

Claim 26 (currently amended): A method for forming a chemical sensor package which comprises:

a. forming a conductive foil having an upper face and an opposed lower face and a three-dimensional conductive circuit feature formed integrally therewith that projects below the lower face thereof at a location on the foil for providing a readily connectable and disconnectable pressure interconnection to another element below the lower face of the foil,
b. forming a sensing electrode on the foil with a lower side thereof facing toward the upper face of the foil and in electrical communication with the foil and an opposed upper side facing away from the foil and
c. overlaying the upper face of the foil and the upper side of the electrode with a non-conductive overlayer, the overlayer having an upper surface remote from the foil and the electrode and having a well extending through the overlay from the upper surface thereof to the upper side of the electrode and being exposed to the upper side of the electrode.

Claim 27 (previously presented): A method as in claim 26 and including the further step of underlaying the lower face of the foil with a non-conductive underlayer having a lower surface remote from the foil and an opening therein at the location where the three-dimensional circuit feature of the foil projects below the lower face thereof, whereby to permit the circuit feature to project therethrough and downwardly below the lower surface of the underlayer for providing the readily connectable and disconnectable pressure interconnection to another element at the lower surface of the substrate.

Claim 28 (currently amended): A method as in claim 27 and wherein the electrode is comprised of a metal, metal chloride, and/or metal oxide selected from silver, gold, palladium, nickel, platinum, iridium, and their chlorides and oxides.

Claim 29 (previously presented): A method as in claim 27 and wherein the foil comprises copper.

Claim 30 (previously presented): A method as in claim 27 and wherein the overlay comprises a polymer film.

Claim 31 (previously presented): A method as in claim 30 and wherein the polymer film comprises a polyimide film.

Claim 32 (previously presented): A method of forming a chemical sensor package which comprises:

a. providing a mandrel having an electrically conductive surface configured to produce a foil when a conductive metal is electrodeposited thereupon, the surface having a depression therein,
b. electrodepositing a conductive metal on the electrically conductive surface to form a foil having a lower face adjacent the mandrel surface and an opposed upper face remote from the mandrel surface and, at the depression in the mandrel surface, a three-dimensional circuit feature formed integrally therewith that project below the lower face thereof at a location on the foil for providing a readily connectable and disconnectable pressure interconnections to another element below the lower face of the foil,
c. forming an electrode on the upper surface of the foil with the electrode having a lower surface adjacent and in electrical contact with the foil and an opposed upper surface,

d. laminating a non-conductive coverlayer onto the upper surface of the foil and of the electrode on the mandrel, the non-conductive coverlayer having an lower surface adjacent the upper face of the foil and an opposed upper surface and having an opening therethrough at the location of the electrode, whereby to form a well extending from the upper surface of the cover layer to the upper surface of the electrode and
e. separating the laminated coverlayer and foil from the mandrel.

Claim 33 (previously presented): A method as in claim 32 and including the further step of underlaying the lower face of the foil with a non-conductive underlayer having a lower surface remote from the foil and an opening at the location where the three-dimensional circuit feature of the foil projects below the lower face thereof, whereby to permit the circuit feature to project therethrough and downwardly below the lower surface of the underlayer for providing the readily connectable and disconnectable pressure interconnection to another element at the lower surface of the substrate.

Claim 34 (currently amended): A method as in claim 32 and wherein the conductive metal is comprised of copper and the electrode is comprised of a metal, metal chloride, and/or metal oxide selected from silver, gold, palladium, nickel, platinum, iridium, and their chlorides and oxides.

Claim 35 (previously presented): A method as in claim 32 and wherein the overlay comprises a polymer film.

Claim 36 (previously presented): A method as in claim 35 and wherein the polymer film comprises a polyimide film.

Claim 37 (currently amended): A method for forming a chemical sensor package which comprises:

a. forming a conductive copper foil having an upper face and an opposed lower face,
b. forming a sensing electrode on the foil with a lower side thereof facing toward the upper face of the foil and in electrical communication with the foil and an opposed upper side facing away from the foil and
c. overlaying the upper face of the foil and the upper side of the electrode with a non-conductive overlayer, the overlayer having an upper surface remote from the foil and the electrode and having a well extending through the overlay from the upper surface thereof to the upper side of the electrode and being exposed to the upper side of the electrode.

Claim 38 (currently amended): A method as in claim 37 and wherein the electrode is comprised of a metal, metal chloride, and/or metal oxide selected from silver, gold, palladium, nickel, platinum, iridium, and their chlorides and oxides

Claim 39 (previously presented): A method as in claim 37 and including the further step of underlaying the lower face of the foil with a non-conductive underlayer having a lower surface remote from the foil and an opening therein at a location adjacent the lower face [the location of the circuit feature] of the foil for providing access for a readily connectable and disconnectable pressure interconnection to another element at the lower surface of the substrate.

Claim 40 (previously presented): A method of forming a chemical sensor package which comprises:

a. providing a mandrel having an electrically conductive surface configured to produce a foil when a conductive metal is electrodeposited thereupon,

b. electrodepositing a conductive metal on the electrically conductive surface to form a foil having a lower face adjacent the mandrel surface,
c. forming an electrode on the upper surface of the foil with the electrode having a lower surface adjacent and in electrical contact with the foil and an opposed upper surface,
d. laminating a non-conductive coverlayer onto the upper surface of the foil and of the electrode on the mandrel, the non-conductive coverlayer having an lower surface adjacent the upper face of the foil and an opposed upper surface and having an opening therethrough at the location of the electrode, whereby to form a well extending from the upper surface of the cover layer to the upper surface of the electrode and
e. separating the laminated coverlayer and foil from the mandrel.

Claim 41 (previously presented): A method as in claim 40 and including the further step of underlaying the lower face of the foil with a non-conductive underlayer having a lower surface remote from the foil and an opening therethrough at a location adjacent the lower face of the foil, whereby to provide access to the lower face of the foil at said location to permit readily connectable and disconnectable pressure electrical interconnection with another element at the lower surface of the substrate.

Claim 42 (currently amended): A method as in claim 39 and wherein the conductive metal is comprised of copper and the electrode is comprised of a metal, metal chloride, and/or metal oxide selected from silver, gold, palladium, nickel, platinum, iridium, and their chlorides and oxides.